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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/059,782	01/30/2002	Vimal V. Shah	2001-IP-005220	5467
22858	7590	06/09/2005	EXAMINER	
CARSTENS YEE & CAHOON, LLP			WONG, ALBERT KANG	
P O BOX 802334			ART UNIT	
DALLAS, TX 75380			PAPER NUMBER	
			2635	

DATE MAILED: 06/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/059,782	Applicant(s) AK SHAH ET AL.	
	Examiner Albert K. Wong	Art Unit 2635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 18-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 and 22-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>see attachment</u> . | 6) <input type="checkbox"/> Other: _____ |

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1. This Office action is in response to applicant's election of invention filed. February 23, 2005. The election of Group I (claims 1-17 and 22-25) have been confirmed. Claims 18-21 have been withdrawn from consideration. The IDSs filed July 15, 2002 and August 13, 2003 have been considered and acknowledged.

2. Applicant's election with traverse of Group I in the reply filed on February 23, 2005 is acknowledged. The traversal is on the ground(s) that the claimed inventions are not distinct. This is not found persuasive because applicant has provided no reasoning to support his conclusory statement.

The requirement is still deemed proper and is therefore made FINAL.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-8 and 22-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1, 5 and 22, these claims recite a communication system with desired properties but without the means necessary for performing the claimed function. Thus, one is merely reciting a system in functional terms. Further, the recitation of an acoustic system is merely made in the preamble. There is no mention of acoustic limitations within the body of the claims. It is not clear whether the claimed system is limited to an acoustic system.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

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such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-17 and 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matthews 5,148,408 in view of Acoustic Telemetry System (ATS).

Regarding claim 1, Matthews teaches an acoustic telemetry system for communication between transceivers attached to string tools in a borehole. Communication parameters are optimized by calibrating the system to determine the pass bands and stop bands to determine the optimum transmission parameters. Matthews does not teach a plurality of transceivers. ATS teaches an acoustic telemetry system for use in a well bore that uses a plurality of transceivers. It would have been obvious to modify the basic communication system in Matthews to create the multi-transceiver system in ATS to extend the range of communications and to allow communication with a variety of tools.

Regarding claim 2, the systems in Matthews and ATS use drill strings and tubing.

Regarding claims 3-4 and 7-8, within conventional production wells there exists multilateral junction heads for production of hydrocarbons from lateral spars. These portions comprise tubing that are similar to other portions of the well. Such lateral spars contain the same sensor and tools in other areas of the well and thus require a communication system. The transmission of acoustic signal on these portions of the well should be similar. It would have been obvious that the acoustic signals would propagate along all connected structures to permit communication.

Regarding claim 5, see claim 1 for a discussion of an acoustic transmission system in a well bore with calibration. The system in Matthews is bi-directional. It is conventional in

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communication systems for the transmitters to re-calibrate whenever communication is unexpectedly terminated. It would have been obvious for a transmitter to re-calibrate the system in case of communication failure in an attempt to reestablish communications.

Regarding claim 6, see claim 2 above.

Regarding claim 9, Matthews teaches the attaching of a transceiver along a string of tools in a borehole. Processors are inherent in the system. Matthews also teaches the negotiation of communication parameters to obtain optimal communications and the communication of data and instructions between the surface and downhole equipment. Matthews does not teach a plurality of transceivers. ATS teaches a plurality of transceivers. As stated in claim 1, it would have been obvious to use a plurality of transceivers to extend the range of communication. Also, ATS teaches the control of a plurality of equipment.

Regarding claim 10, see claim 2.

Regarding claim 11, ATS teaches the use of sensors.

Regarding claim 12, the signal in Matthews is binary. It is conventional to use on-off keying to transmit binary signals. It would have been obvious to use on-off keying to conserve energy since the transmitter does not have to expend power during the off phase.

Regarding claim 13, Matthews teaches FSK.

Regarding claim 14, as stated in claims 9 the method of acoustical communication would have been obvious. As stated in claim 5, it would have been obvious to re-initialize calibration if communications is lost. Further, it is conventional in communication system to be made adaptive to optimize communications when the transmission channel is subject to change.

Regarding claims 15-17, these limitations have been addressed above.

Regarding claim 22, the acoustic system with transceivers that resolve communications is taught in Matthews. ATS teaches a plurality of tools and a plurality of transceivers. It would have been obvious to combine the references since they are in the same field of endeavor.

Regarding claims 23-25, the resolution of communication parameter may occur at any time. It would have been obvious to calibrate the system prior to communication to optimize the channel. It would have been obvious to optimize the channel when communications deteriorate in an attempt to improve communications. And it would have been obvious to optimize the channel at regular periods if the channel quality is continuously changing.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Albert K. Wong whose telephone number is 571-272-3057. The examiner can normally be reached on M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik can be reached on 703-305-4704. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Albert K. Wong

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June 4, 2005

A handwritten signature in black ink, appearing to read 'AKW' or similar, written in a cursive style.

ALBERT K. WONG
PRIMARY EXAMINER